WHAT IS CLAIMED IS:

1.   A communication apparatus having a plurality of input
and output ports to be connected to a plurality of types
of networks, comprising:

5   means for discriminating the type of an incoming
network of a connection setup request when the connection
setup request is received from any one of said input ports
and ; and

         means for selecting an outgoing network in said
10   connection setup request on the basis of a predetermined
rule, and transferring the connection setup request to an
output port connected to said outgoing network after
rewriting a part of the connection setup request.

15   2.   A communication apparatus having a plurality of input
and output ports to be connected to a plurality of types
of networks, comprising:

         means for discriminating an incoming network of a
received message when the message is received from one of
20   said input ports; and

         means for selecting an outgoing network of said
received message on the basis of a predetermined rule, and
transferring the received message to an output port connected
to said outgoing network after rewriting a part of the
25   received message.

3.   A communication apparatus having a plurality of input
and output ports to be connected to a plurality of types
of networks, comprising:

5   first means for discriminating an incoming network
of a received message when the message is received from one
of said ports; and

        second means for selecting an outgoing network of said
received message on the basis of a predetermined rule, and
10   transmitting said received message to an output port
connected to said outgoing network after selectively
rewriting the contents of a first address field and a second
address field in the received message.

15   4.   A communication apparatus according to claim 3,
wherein when the incoming network of said received message
is a network of a first type and an outgoing network is a
network of a second type, said second means sends out said
received message to an output port connected to said outgoing
20   network after writing the contents of said first address
field into said second address field and an address
corresponding to the network of the second type obtained
on the basis of said predetermined rule into said first
address field.

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5. A communication apparatus according to claim 3, wherein when an incoming network and an outgoing network of said received message are networks of a first type, said second means sends out said received message to an output

5 port connected to the outgoing network by using the contents of said first address field.

6. A communication apparatus according to claim 3, wherein when the incoming network of said received message

10 is a network of a first type and the outgoing network is a network of a third type, said second means writes an address corresponding to the network of the third type obtained on the basis of the predetermined rule into said first address field, and sends out the received message to an output port

15 connected to the outgoing network.

7. A communication apparatus according to claim 3, wherein when the incoming network of said received message is a network of a third type and the outgoing network is

20 a network of a first type, said second means sends out said received message to an output port connected to the outgoing network by using the contents of said first address field.